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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,871

08/18/2005

Thomas Leucht

GAS-009

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32628

7590

12/13/2007

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EXAMINER

DAVIS, JENNA L

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

12/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,871	Applicant(s) LEUCHT ET AL.	
	Examiner Jenna Davis	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki (US 6248820) in view of Marx (US 4774268).

Nozaki et al. teach a flame retardant for flameproof mesh sheets which does not generate harmful halogen gas. The flame retardant for mesh sheets comprises red phosphorus, an ammonium polyphosphate compound in an amount of 10 to 70 parts by weight based on 100 parts by weight of an aqueous dispersion, and a resin solid content (abstract). Ammonium polyphosphate acts as the flame retardant and would necessarily be an acid donor. The flame retardant can be used to impregnate flameproof mesh sheets woven out of coated yarn (col. 3, lines 6-8). The polymer can be a polyurethane having the main structure of a polyester (col. 4, line 23). The red phosphorus promotes the carbonization of polyurethane (col. 5, lines 60-62), which necessarily acts as a carbon donor. The polyurethane aqueous dispersion is present in amounts of about 10 to 70 wt. % (col. 4, lines 45-46). Inherent to polyurethane is a crystallization temperature of less than 190°C and a melting temperature in the range of 50°C to 400°C or a decomposition temperature in the range of 150°C to 500°C. Therefore, the polyurethane would necessarily have a difference between the melting temperature and the crystallization temperature in the range of 55 to 70 K. While the reference does not require the

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coating to be transparent it would have been obvious to a person having ordinary skill in the art to do so in order to be able to view the underlying substrate. Although Nozaki et al. do not explicitly teach the claimed carbon content, it is reasonable to presume that the polymer material inherently provides a share of at least 20 weight percent of the carbon. Support for said presumption is found in the use of like materials (i.e. flame retardants for mesh sheets), which would result in the claimed property. The burden is upon the Applicant to prove otherwise. In addition, the presently claimed property would obviously have been present once the claimed product is provided. Nozaki et al. teach the use of mold preventing agents (col. 7 lines 62-63), but do not specifically teach an insecticide or bactericide. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a mold preventing agent as the Examiner takes Official Notice of the equivalence of insecticides or bactericides and mold preventing agents for their use in the art and the selection of these known equivalents to be used as fungicides would be within the level of ordinary skill in the art. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the desired weight percents of the fungicides through the process of routine experimentation in order to arrive at values which offered the optimum fungus or bacteria prevention in the invention of Nozaki et al.

Nozaki et al. fail to teach that the coating comprises from 0.5 to 10-weight % of an isocyanate or a melamine-formaldehyde. Marx et al. are drawn to flame resistant polyurethane compositions. Marx et al. teach that the flame retardant composition comprises from 10 to 50 weight percent of a melamine formaldehyde (col. 7, lines 45-48). It would have been obvious to one having ordinary skill in the art at the time the invention was made to add the melamine

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formaldehyde of Marx et al. into the coating composition of Nozaki et al. motivated to act as a crosslinking agent as well as to allow the polyurethane to soften when heated.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki in view of Marx as applied to claim 1 above, and further in view of Maples (US 6284343) substantially as set forth on page five of the final rejection dated 11/2/2006.

Response to Arguments

Applicant's arguments filed September 24, 2007, have been fully considered but they are not persuasive.

Applicant argues that the teachings of Nozaki and Marx, taken as a whole do not suggest the claimed invention. Applicant argues that Nozaki does not provide an intumescent system like the one claimed here. This argument is not found to be persuasive as Nozaki provides ammonium polyphosphate and red phosphorous to the flame retardant composition and discloses at column 5, line 53 to column 6, line 28 that the material is bonded to oxygen in the air to become carbon dioxide gas, water and carbon and that the resin becomes an oxygen impermeable layer on the surface of the resin and suppresses the combustion. Nozaki further discloses that the ammonium polyphosphate generates nitrogen gas which shuts off oxygen to the material. This appears to be the same mechanism that is provided by applicant. The generation of CO₂ and nitrogen gases would cause the coating to swell and would thus fall within a reasonable definition of an intumescent material. While Nozaki does not use the term intumescent to describe the material, the description in the Nozaki patent of the flame retarding mechanism appears to be the same as with any other material that is named "intumescent."

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It is not agreed that neither Nozaki nor Marx teach or suggest a substantially transparent coating mass. Nozaki expressly states at column 4, lines 58-67 that the red phosphorous that is provided may provide a strong red tint if too much is used. This at least implies that the coating is transparent. The Examiner maintains that it would have been obvious to provide the Nozaki material in transparent form in order to be able to view the underlying substrate since the material is not intended to dye or pigment the underlying fabric, but only to provide fire retardancy.

The argument that applicant's composition does not include red phosphorous is unpersuasive because the claims presented here recite "comprising" which does not preclude the presence of other materials in the coating composition on the substrate.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In the present case the Examiner has provided ample motivation showing why a person having ordinary skill in the art would have included melamine formaldehyde in the flame retardant of Nozaki since such materials are well known cross-linking agents used in combination with ammonium phosphate.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna Davis whose telephone number is 571-272-3357. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jenna Davis/
Primary Examiner, Art Unit 1794

Jld
12/10/2007